

intermediate spaces being glabrous. It was this fact which led me erroneously to suppose that the common British plant ought to be considered as the *T. Chamædrys* of Fries, and caused me to so name it in the 3rd edition of my 'Manual.' In the 'Fl. Silesiæ' (p. 167) attention is justly directed to the fact that in *T. Serpyllum* the elongated forms have the more slender shoots, whilst in *T. Chamædrys* the more extended the shoots the thicker they become.

I possess *T. Chamædrys* from the Devil's Ditch in Cambridgeshire; Box Hill, Surrey (*T. sylvestris*); and How Capel, Herefordshire. It flowers throughout the summer, and, I think, likes rather a damper and more shaded situation than its ally.

In all probability these two species will be found throughout the kingdom, but it is to be desired that botanists should carefully note their presence in all parts of the country in order that their true distribution may be ascertained.

**XL.—Further Observations on the Animal of Diplommatina (including a Note by Capt. T. Hutton). By W. H. BENSON, Esq.**

DR. J. E. GRAY, and after his example Dr. L. Pfeiffer, being at issue with Capt. Hutton and myself on the subject of referring the genus *Diplommatina* to the operculated or inoperculated pulmoniferous Testacea, the holders of the latter opinion being moreover those who have studied the animal in a living state on its native mountains, and who ground their persuasion on the view of many hundred specimens, while the maintainers of the contrary part can only refer to two or three Museum\* specimens which must have passed through several hands before submission to scientific examination, anything which can tend to throw light on the question will be acceptable to conchologists.

The occurrence of a single operculum in a living specimen, or in one conveyed from the Himalaya to England, secured from all risk of being tampered with, either ignorantly or designedly, would be sufficient to settle the matter in the affirmative, even although thousands should be found destitute of this accessory piece; but I cannot allow that such a certainty has yet been arrived at as to induce us to reject the accumulated evidence of opposing observations. No operculum will be necessary for the publication

\* Dr. Pfeiffer's note, 'Monograph,' p. 121, "Cl. Benson operculum non observavit, tamen in copiosis Musæi Britannici speciminibus adest, et ideo genus familiæ Carychiadarum adnumerat," leads to an erroneous conclusion. Dr. Gray has assured me that there are only two or three opercula in the British Museum.

of the following communication from Capt. Hutton, which reached me last month. I am enabled to add some corroborative evidence from a subsequent examination of my own collection.

Capt. Hutton writes as follows:—"Unfortunately when you asked me to look at living specimens of *D. folliculus* the ground was white with frost; nevertheless I sallied forth into the forests and extended myself among the frozen leaves, beneath which and stones I procured a few, but I soon became so cold that I was obliged to desist. I have just examined two living specimens under a strong glass, but can find no operculum even though I have deliberately pulled them to pieces atom by atom, and I still adhere to my former opinion that they belong truly to the *Carychiadae*." "Besides this I have a box containing many hundreds (I might say thousands perhaps), and there is not a trace of a loose operculum among them, so that I say again, Gray must have been misled by the operculum of some other species in the same box with them."

Since my return to town I have examined 139 specimens, in my collection, of the three Himalayan species, taken by Capt. Hutton at Simla near the Sutlej, and by myself at Landour, between the Jumna and Ganges, and at Neinee Tal in Kemaon, to the north of Rohilkhund, three widely distant mountain localities. Of these 73 were specimens of *D. folliculus* (47 being collected by myself); 64 of *D. costulata* (63 being also collected by myself); and 2 of *D. Huttoni*, collected by Capt. Hutton at Simla. In 138 specimens there was not a vestige of an operculum, and in only one was the aperture covered by a thin translucent membranaceous epiphragm (without any vestige of a spiral or other organization) which hermetically closed the mouth of the shell, extending even over the reflected portion on the parietes.

The tooth-like plait on the columella has already been regarded by me as militating against the theory of an operculum, and I consider that the occurrence of an epiphragm, which has evidently been deposited by the animal itself, is a strong additional argument in favour of those who would refer the animal to the inoperculated Pulmonifera.

The Simla specimens were sent to me some fifteen years ago by Capt. Hutton, and, with those which I collected myself, have been enclosed in quills and small boxes; have never since been out of my own possession; and, when necessarily under the custody of others, have been secured in well-fastened chests beyond all suspicion of having been meddled with; and yet not a single loose operculum is to be found in the corked quills, &c. in which they were contained.

With such facts before me, and with all respect for the perfect

good faith of Dr. Gray's observations, I am irresistibly led to the conclusion that the opercula assigned by him to *Diplommatina* were adventitious, and that if not assignable to the young of *Alycæus strangulatus* which is found abundantly in company with *Diplommatina*, they must belong to some other shell, and have become accidentally mixed with specimens to which they did not originally belong.

Since the publication of the observations contained in p. 286 of the 'Annals' for April, I have inspected specimens of *Diplommatina minor*, Gr., and am fully satisfied that it has no real connexion with *Diplommatina*. The aspect of the aperture is quite Cyclostomatous; that of *Diplommatina* is far from being so. Pfeiffer calls it a dubious species; I have no hesitation in rejecting it from the genus, and consider that if it should be, as is most probable, provided with an operculum, that circumstance will in nowise affect the question as regards the true species. I add a note on the characters. The aperture is circular, and at once indicates a *Cyclostoma*; the peristome is interrupted above and is double; the inner lamina, which is subporrect and expanded, being divided from the outer reflected lip by a sulcus. The two upper whorls alone are closely and obtusely costulate, the rest are smooth; there is no trace of an internal plica. The doubling of the peristome is effected in a different manner from that of the *Diplommatinae*, in which the retro-relict second lip is only visible laterally, and not in front as in *Cyclostoma minus*.

In Mr. Gaskoin's two specimens of the Australian *Diplommatina*, the internal columellar plica is to be detected.

London, May 1853.

XLI.—On the Genera of the Tribe Duboisieæ.

By JOHN MIERS, Esq., F.R.S., F.L.S.

[Continued from p. 381.]

ANTHOTROCHE.

THIS genus was first made known by Endlicher in his 'Genera Plantarum,' p. 1404, his short description of the only species being published in his 'Nov. Stirp. Mus. Vindob.' p. 7. It was placed by him among the *Salpiglossideæ*, but referred by Mr. Bentham to *Solanaceæ*, no doubt because of the more isomeric structure of its flowers. I first called attention in 1849 to the singular fact of the extrorse position of the stamens, and confirmed the general analogy of its characters to *Anthocercis*. Lately it has been noticed by M. A. DeCandolle, 'Prodr.' xiii. 676,